

## **Disclosure letter**

### **DE 39 04 558 A 1**

**File reference:** P 39 04 558.7  
**Issue date:** 2. 15. 89  
**Disclosure date:** 8. 23.90

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(54) Automatic output controlled high frequency generator for high frequency surgery

The invention describes a high frequency generator for high frequency surgery with an output amplifier operating in the circuit breaker, a modulation device for the control of the output, and a harmonic measuring device for measuring the frequencies harmonic to the generator frequencies which are created between the surgery probe and the developed electric arc for cutting or coagulating tissue. At the moment of the start up time the output amplifier is controlled by an auxiliary oscillator. After the start up, the control of the output amplifier will be converted to self excitation whereby voltage feedback will be selected when the load impedance exceeds a specific value and current feedback when the load exceeds a specific value. During the feedback operation the auxiliary generator will be synchronized with a phase servo loop to the output frequency and output phase of the high frequency generator. The harmonic measuring devices contain a phase controlled rectifier whose control signal is derived from the auxiliary generator.

The advantage of such a generator is in its marginal energy dissipation, its high reliability and its low filter use in the output area.